

The Action notes that Barr fails to disclose obtaining (or using) a current index of stock, bond, and money market sectors of the market place and computing a weighting factor for each index as recited in the claims of the present application and then cites Khorana's disclosure of the use of World Equity Benchmark Shares (WEBS) as an international indexing instrument for the proposition that WEBS provide a current set of indexes of mutual funds which may represent various sectors of the marketplace. The Action then continues, however, by making allegations as to the combination of Khorana with **Bloom**, U.S. Patent No. 6,061,663 (hereinafter "Bloom"), not Barr, stating that

"It would have been obvious for an artisan of ordinary skill at the time of the invention to integrate the method disclosed in Khorana because an artisan of ordinary skill in the art would recognize that the use of WEBS in the Bloom system would greatly increase its usage to an international scale, as well as a broader market. Thus, such a modification would allow a more diversified level of indexing a classification of securities, and thus would be an obvious expedient to one of ordinary skill in the art."

The Action continues on page 4 with a list of relevant prior art, and Bloom heads the list. This switch from Barr to Bloom is so confusing that the §103 rejection is respectfully traversed for this reason alone. Reconsideration and withdrawal of this rejection over the combination of Bloom (or Barr?) and Khorana is respectfully requested or, at a minimum, it is requested that the rejection be clarified so that Applicant has an adequate opportunity for response.

However, before any such rejection is set out in a subsequent action, it is respectfully noted that even a combination of all three references does not meet the criteria required to make a *prima facie* showing of the obviousness of the differences between these references and the claims as required by MPEP §706.02(j), paragraph 2. This section of the MPEP, in pertinent part, states that three criteria must be met to establish a *prima facie* showing of obviousness:

- (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings;
- (2) there must be a reasonable expectation of success that the combination will be an effective improvement; and
- (3) the prior art references, when combined, must teach or suggest all the claim limitations.

MPEP §2143 adds that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not in applicant's

disclosure. No such showing can be established for the present claims on the basis of any of these three references, alone or in combination.

With respect to the first of the three criteria for establishing a *prima facie* obviousness rejection, there is no suggestion in Barr, Bloom or Khorana to make the combination that is alleged to have been obvious to one skilled in the art. Indeed, Khorana presents a comparison of specific equity indexes (World Equity Benchmark Shares provided by the American Stock Exchange) related to other equity indexes to suggest improvements in decision making about asset allocation. There is no suggestion of treatment of equities or their market parameters to attain the weighting methods of the instant invention. In fact, it may be argued that Khorana teaches away from the instant invention both by presenting a closed system of only equities and structuring his comments as a comparison, which by its nature is a closed system.

Bloom does recite a method for stock index re-balancing (col. 1) but does not recite combinations with other capital markets. Bloom's technique cannot be applied to other capital markets or securities including, but not limited to, treasury bonds or securities, federal government mortgages, real estate related investments, e.g., Real Estate Investment Trusts or federally related mortgage pools as comprehended in the instant invention. The securities environment disclosed by Bloom is closed and there is no suggestion about how to extrapolate Bloom's method to other markets. No suggestion of combining Bloom's teachings with Khorana's comparison techniques would be likely occur to one skilled in the art because the systems addressed are so dissimilar, the analytic techniques inapposite, and the techniques for composing indexes so disparate. These differences arise from the different kinds of securities being treated, the widely different methods of treatment and the different aims of the various references as distinguished from the instant invention.

Barr, similarly, does not recite utilization of securities other than stocks and, as noted in the Action, fails to disclose obtaining a current index of stock, bond and money market sectors and computing a weighted factor for each index. Nor does Barr address treasury bonds or securities, federal government mortgages, real estate related investments, e.g., Real Estate Investment Trusts or federally related mortgage pools. Instead, Barr discloses a data processing system and method for selecting securities and constructing an investment portfolio based on a set of neural networks trained by using a number of price and volume history input parameters derived from the securities market performance data. The Barr method combines the expected return/appreciation potential data for each security via an optimization process applied to a portfolio that satisfies predetermined aggregate statistics. The Barr system receives market data and attempts to estimate the

appreciation potential of the participating securities. The system utilizes neural “nets,” which have the ability to “learn,” that is, *inter alia*, examine data in the light of past performance and predict trends.

Whereas the calculations in Barr’s method are derived by a neural net training method which attempts to discern patterns in the target data set, the instant invention uses government and market data to determine the weights of system components. The method claimed in the present application then measures the relative and combined performance of said components.

The stock selection process utilized in Barr uses a neural net for each stock in a given capital market. This selection process involves a dynamical process in which the organization of the network (the structure of its connectivity) is modified on the basis of the interaction of the network with external stimuli. The variations of neural networks are based on attractor neural networks—a network of interacting formal neurons (mathematical constructs that are computer based), with a high degree of feedback, whose dynamics are governed at long times by attractors. An attractor is a special network state, or a restricted set of states, to which the dynamical process governing the time evolution of the network brings the network, after a long enough time, from large classes of initial network states.

The acural neural networks utilized by Barr follow the same essential principals. These nets provide the capability to capture non-linear functional relationships among variables among input variables which are not easily modeled or captured by more traditional methods of security analysis and selection such as multifactor models based on linear relationships. (Barr, col. 3, lines 58, *et seq.*). Unfortunately, the choice of sets from which to select input data and its subsequent treatment using net criterion functions and calculations is highly specialized and is not easy to adapt, and at times, is not possible to adapt to include data sets with different properties. This difficulty makes it less likely that one of ordinary skill in the art would be successful in making a combination with Khorana to, as suggested in the Action, internationalize the teaching of Barr and to extrapolate the Barr techniques to other kinds of securities. Barr continues (col. 4, line 20) by stating that “following the selection of input indicators; each net is trained with the available historical data. The training process continues until at least one stopping criterion is met. Such criteria include the determination that the connections between the nodes of the net have reached a steady state, the error between the predicted output and the actual target values is less than a certain threshold, or that a predetermined time period has elapsed without any improvement in the net’s performance.” The instant invention has none of these explicit limitations in its fundamental construct.

Further, there is no suggestion in Barr as to how the method described in that reference could be applied to other types of securities such as those recited in the claims of the present application that list data sets with widely differing structures that may have disparate characteristics that are not at all similar to the historical data used in Barr. More critically, Barr does not provide a sufficient explanation to enable one skilled in the art to attempt to extrapolate the method to securities with markedly different properties than the stocks that Barr analyzes. For instance, at col. 8, line 29, Barr explains the steps required to generate the data for use as input to the net for a given stock. Part of this explanation cites source examples for variables required for the calculation. For many of the securities treated in the instant invention, no comparable data source exists.

Hypothetically, suppose one skilled in the art was able to collect data on all the securities that are considered in the instant invention. It is clear that the data sets would have wide variance in their characteristics. This wide variance means that the required net training that is the subject of Barr would be much more difficult to achieve, the stop points more arbitrary, the time to reach steady state between the nodes longer, and the error between the predicted output and the actual target values more difficult to drive to a desired level or that the predetermined time period used to wait to see that the net's performance has converged to a steady state would be so long as to be impractical. Part of this impracticality is due to the fact that as more nodes are added to the net, with the addition of more securities, the number of connections increases factorially (essentially exponentially). The computational power to handle the behemoth training matrix for all the different kinds of securities and their individual numbers would be difficult to achieve and possibly prohibitively expensive.

For these reasons, one skilled in the art stands little if any possibility of success in making a combination to "internationalize" parameters that could be compared to the full range of indexes claimed in the instant invention. If there is no likelihood of success, it is respectfully submitted that no *prima facie* showing of the obviousness of the differences between the claimed invention and the cited art has been established and that the §103 rejection is therefore inappropriate.

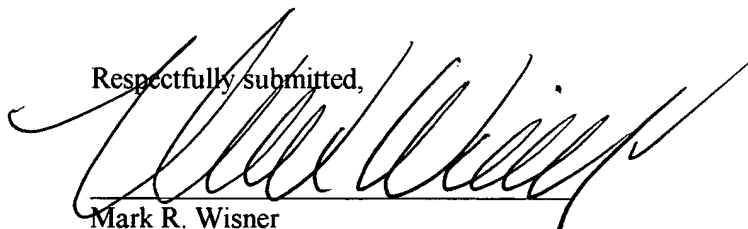
Finally, apart from the lack of any motivation or suggestion in the cited references to modify either reference to combine teachings, and apart from the lack of any possibility of success in combining elements, there is no teaching in Barr, Bloom, and/or Khorana, alone or in combination, of all the claimed elements of the instant invention. There is, for instance, no teaching in any of the cited references of using more than one security (regardless of whether it is equity, bond, and/or money market securities) in a method for producing an index for

approximating the activities of the securities in the marketplace as recited in the claims. Barr does not even teach obtaining a current index or an index for either of bond or money market securities. Nor does Barr teach the combining of weighted indexes as recited in the claims. Nor does Khorana teach looking at any securities other than equities. Further, Khorana does not teach weighting at all. In short, there are many differences between the claims of the present application and the cited references such that this third requirement for making out a *prima facie* showing of the differences has not been met in the Action.

Applicant has amended several of the claims to correct some inadvertent errors and to clarify those claims. New claims 26-27 have been added to more specifically define that which Applicant regards as his invention.

Entry of the claim amendments set out above as well as new claims 26-27, reconsideration and withdrawal of the §103 rejection in light of the lack of a showing of *prima facie* obviousness, allowance of the claims, and passage of the application to issuance are all respectfully requested. In the unforeseen event that there are questions and/or issues yet to be answered in this application, it is respectfully requested that Applicant's Attorney be contacted at the address and phone number set out below.

Respectfully submitted,



Mark R. Wisner  
Registration No. 30,603  
Wisner & Associates  
2925 Briarpark, Suite 930  
Houston, TX 77042  
Telephone: (713) 785-0555  
Facsimile: (713) 785-0561

ATTORNEY FOR APPLICANT

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